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Computer Analysis of Thermomechanical State of Sealing Steel Lining for Containment of NPPs with VVER-1000/V-320 in Emergencies

Computer analysis of thermomechanical state of the sealing steel lining under relevant extreme hazards has been performed to define the possibility and scope of loss of integrity of sealing steel lining, in particular the possibility of losing of the confining function by the NPP reactor compartment containment under emergency conditions. The study gave an opportunity to obtain functions of stress strain parameter evolution function in reinforced concrete and sealing steel lining depending on changes in emergency temperature and pressure in the reactor compartment. The paper assessed the margin of sealing steel lining bearing capacity.

Keywords: containment, sealing steel lining, thermomechanical state, computer modeling, stress strain state.